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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,488	12/14/2000	Masatoshi Takaira	018656-196	8369

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EXAMINER	
LETT, THOMAS J	

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
06/02/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No.	Applicant(s)	
	09/735,488	TAKAIRA ET AL.	
	Examiner	Art Unit	
	THOMAS J. LETT	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6 and 18* is/are allowed.

6)☒ Claim(s) *1-5,7-17,19 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

1. Applicants arguments filed 04 February 2008 have been fully considered but they are not persuasive.

2. Applicants argue that Ambalavanar does not teach using a bus to connect both the image reader and the printing unit to the controller. As can be seen in Figure 1 of Ambalavanar, the scanner 18 is connected to the controller 16 through one bus and the printer 20 is connected to the same controller 16 through a separate bus.

3. Examiner responds that Ambalavanar teaches a VBus 28 which is a single bus that is not shown in the block diagram of figure 1. VBus 28 is part of the VCM 16 that is shown in figure 1. The Vbus is clearly shown in figure 2 and the VBus was referenced by Examiner in the 103 rejection. This single bus has various input and output connections that connect to various devices including printer 20 and scanner 18, as taught at col. 6, lines 45-53. It is not correct that Ambalavanar does not teach a bus to connect both the image reader and the printing unit to the controller and therefore Examiner‘s stance is maintained.

4. Applicants argue that there is no indication in *Nagashima* that the signal generator generates a signal *based* on an operation timing of the printing unit. The fact that the N*agashima* printer and the sync signal are synchronized does not mean that the signal is based on an operation timing of the printing unit. *Nagashima* does not indicate what the synch signal is based on. As a result, in *Nagashima,* since the synch signal is not generated based on an operation timing of the printing unit, the transfer of data cannot be optimized around the operation of the printing unit. In other words, in *Nagashima,* the printing unit may be paused at times that are not advantageous. The present invention overcomes this problem by using a signal generator that generates a signal based on an operation timing of the printing unit.

5. Examiner responds that the image clock is a clock serving as a standard for other signals in the system of Nagashima et al. Since all timing is referenced from the image clock, the operation timing of the printer is in sync with the image clock. The signal generator is thus

based on a synonymous or synchronized printer timing that is also based on an image clock signal. Examiner responded in the Office Action that this is inherently done when printing data. When printing, and bits are placed on a clock signal, the image information is placed on the rise and/or fall of the clock signal as the signal toggles during the print operation as the information gets sent to the printer. The system may be programmed to insert data (e.g., one bit, two bits, etc.) onto each toggle as necessary until a complete image is received and can be output by the print device.

6. Applicants argue that the signal generated by the signal generator is a horizontal synchronization signal issued based on an operation timing for each line. In the last response, Applicants argued that portion of *Nagashima* relied upon by the Examiner do not refer to issuing a clock signal based on an operation timing *for each line*. However, the Examiner did not address this argument.

7. Similarly to Examiner's response above, when printing, and bits are placed on a clock signal, the image information is placed on the rise and/or fall of the clock signal as the signal toggles during the print operation as the information gets sent to the printer. The system may be programmed to insert data (e.g., one bit, two bits, etc.) onto each toggle as necessary until a complete image is received and can be output by the print device. In this case Nagashima et al places image information on the rise and fall of the clock signal. Image information inherently includes pixel(s) and pixel data can be programmed to be placed on each rise and fall of the clock signal.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-5, 7-16, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagashima et al (USPN 5,581,613) in view of Ambalavanar et al (USPN 5,579,452 A).

With respect to claim 1, Nagashima et al disclose a digital copying machine (color copying apparatus 35, Fig. 4) comprising:

an image reader (scanner unit 42, Fig. 4) that reads an image of the original document and generates image data,

a printing unit (printing unit 43, Fig. 4) that prints based on print image data,

an internal bus (see Fig. 4, the bus extends from circuit 50 to scanner 42 and printer 43) that transmits the scan image data generated by the image reader (scanner unit 42) to the controller (external controller 4, col. 3, lines 7-9) and that transmits the print image data from the controller to the printing unit (color image data is supplied by the controller 34 to the printing unit 43),

a signal generator (image clock, Fig. 5) that generates a signal based on an operation timing (this is inherently done since an image sync signal would be in synchronization with the printer when the data is intended for printing) of the printing unit (printing unit 43, Fig. 4), and

Nagashima fails to teach a a controller through which the scan image data and the print image data are exchanged with an external computer, and a switch that, in response to the signal, switches the internal bus between transmission from the image reader to the controller and transmission from the controller to the printing unit.

Ambalavanar et al teach a printing machine 12 containing a control module 16 that controls scan data from the scanner 18 to the control module as well as print data from the controller 16 to the printer 20 on a VBus, see figure 1 and related disclosure. The print data and

scan data are transferred simultaneously on a Xerox DocuTech™ printer's Vbus. The multitasking also includes storage and decomposition of image data. Nagashima and Ambalavanar et al are analogous art because they are from the similar problem solving area of data management. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the concurrent transfer of print and scan data of Ambalavanar et al to Nagashima in order to obtain a device capable of simultaneous multitasking on a single bus. The motivation for doing so would be to save resources.

With respect to claim 2, Nagashima et al disclose a digital copying machine as claimed in claim 1, said signal generated by the signal generator (image clock, col. 3, line 33) is a clock signal issued based on an operation timing for each pixel (image sync signal, col. 3, line 33).

With respect to claim 3, Nagashima et al disclose a digital copying machine as claimed in claim 1, said signal generated by the signal generator is a horizontal synchronization signal issued based on an operation timing for each line (see Figs. 2 and 5).

With respect to claim 4, Nagashima et al disclose a digital copying machine as claimed in claim 1, said bus includes a read buffer that temporarily stores the image data read by the image reader (FIFO buffer 141 is shown in Fig. 6).

With respect to claim 5, Nagashima et al disclose a digital copying machine as claimed in claim 1, said bus includes a print buffer that temporarily stores the image data sent by the external computer (FIFO buffer 133 is shown in Fig. 6).

Claim 7, a method claim, is rejected for the same reason as that of claim 1.

Claim 8, a method claim, is rejected for the same reason as that of claim 2.

Claim 9, a method claim, is rejected for the same reason as that of claim 3.

Claim 10, a method claim, is rejected for the same reason as that of claim 4.

Claim 11, a method claim, is rejected for the same reason as that of claim 5.

Claim 12, a method claim, is rejected for the same reason as that of claim 1.

Claim 13, a method claim, is rejected for the same reason as that of claim 2.

Claim 14, a method claim, is rejected for the same reason as that of claim 3.

Claim 15, a method claim, is rejected for the same reason as that of claim 4.

Claim 16, a method claim, is rejected for the same reason as that of claim 5.

With respect to claim 17, Nagashima et al does not disclose that the switch switches the bus between transmission from the image reader to the controller and transmission from the controller to the printing unit and back again repeatedly and at predetermined fixed intervals.

Ambalavanar et al teach a printing machine 12 containing a control module 16 that controls scan data from the scanner 18 to the control module as well as print data from the controller 16 to the printer 20 on a VBus, see figure 1 and related disclosure. A timing interval is taught in the printer timing diagram of figure 8 wherein various printer processing signals are assigned a certain timing slot. The print data and scan data are transferred simultaneously on a Xerox DocuTech™ printer's Vbus. The multitasking transfer also includes storage and decomposition of image data. Nagashima and Ambalavanar et al are analogous art because they are from the similar problem solving area of data management. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the concurrent transfer of print and scan data of Ambalavanar et al to Nagashima in order to obtain a device capable of simultaneous multitasking on a single bus. The motivation for doing so would be to save resources.

With respect to claim 19, Nagashima et al does not disclose switching the bus between transmission from the image reader to the controller and transmission from the controller to the printing unit and back again repeatedly and at predetermined fixed intervals.

Ambalavanar et al teach a printing machine 12 containing a control module 16 that controls scan data from the scanner 18 to the control module as well as print data from the controller 16 to the printer 20 on a VBus, see figure 1 and related disclosure. A timing interval is taught in the printer timing diagram of figure 8 wherein various printer processing signals are assigned a certain timing slot. The print data and scan data are transferred simultaneously on a Xerox DocuTech™ printer's Vbus. The multitasking transfer also includes storage and decomposition of image data. Nagashima and Ambalavanar et al are analogous art because they are from the similar problem solving area of data management. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add the concurrent transfer of print and scan data of Ambalavanar et al to Nagashima in order to obtain a device capable of simultaneous multitasking on a single bus. The motivation for doing so would be to save resources.

With respect to claim 20, Nagashima et al does not disclose that the switching means switches the internal bus between transmission from the image reader to the controller and transmission from the external computer to the printing unit and back again repeatedly and at predetermined fixed intervals.

Ambalavanar et al teach a printing machine 12 containing a control module 16 that controls scan data from the scanner 18 to the control module as well as print data from the controller 16 to the printer 20 on a VBus, see figure 1 and related disclosure. A timing interval is taught in the printer timing diagram of figure 8 wherein various printer processing signals are assigned a certain timing slot. The print data and scan data are transferred simultaneously on a Xerox DocuTech™ printer's Vbus. The multitasking transfer also includes storage and decomposition of image data. Nagashima and Ambalavanar et al are analogous art because they are from the similar problem solving area of data management. At the time of the

invention, it would have been obvious to a person of ordinary skill in the art to add the concurrent transfer of print and scan data of Ambalavanar et al to Nagashima in order to obtain a device capable of simultaneous multitasking on a single bus. The motivation for doing so would be to save resources.

Allowable Subject Matter

9. Claims 6 and 18 are allowed, as previously indicated.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS J. LETT whose telephone number is (571)272-7464. The examiner can normally be reached on 8-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas J. Lett/
Examiner, Art Unit 2625